



## Pulse Oximetry\*

### Identifying Its Applications, Coding, and Reimbursement

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Although pulse oximetry is a widely accepted and frequently used tool, the reporting and reimbursement of the three related codes, 94760, 94761, and 94762, are often confusing. This commonly used noninvasive tool is a useful adjunct to medical care, but it is not always reimbursed separately. Sometimes referred to as the “fifth vital sign,” along with BP, heart rate, temperature, and respiration rate, pulse oximetry is used in a variety of health-care settings. Pulse oximetry is frequently a component of monitoring for other diagnostic studies and treatments commonly performed by pulmonologists, respiratory care practitioners, and other providers in many settings. Pulse oximetry is used to manage patients on long-term oxygen therapy and for the identification of patients with possible obstructive sleep apnea.

(CHEST 2009; 135:838–841)

**Key words:** coding; oximetry; pulmonary; rehabilitation; reimbursement

**Abbreviations:** CCI = correct coding initiative; CPT = current procedural terminology; E/M = evaluation and management; LCD = local carrier determinations; MDM = medical decision making; RVU = relative value unit; SaO<sub>2</sub> = arterial oxygen saturation; SpO<sub>2</sub> = oxygen saturation as measured by pulse oximetry

#### Purpose and Scope

Pulse oximetry is widely used as a noninvasive tool to estimate the patient’s arterial oxygen saturation (SaO<sub>2</sub>). Used for more than four decades, it often replaces an arterial blood gas study and yields a sufficient amount of information about a person’s SaO<sub>2</sub>. In addition, overnight pulse oximetry is used as an economical means to suggest sleep apnea.<sup>1</sup> Sometimes referred to as the “fifth vital sign,” along with BP, heart rate, temperature, and respiration rate, pulse oximetry is used in a variety of health-care settings.<sup>2</sup> Pulse oximetry is a monitoring component used during other diagnos-

tic studies and treatments commonly performed by pulmonologists, respiratory care practitioners, and other providers in a variety of settings. Monitoring the SaO<sub>2</sub> (or the oxygen saturation as measured by pulse oximetry, SpO<sub>2</sub>, a more recent term) of patients during pulmonary rehabilitation or respiratory therapy services, cardiopulmonary stress testing (simple and complex), high-altitude simulation testing, and ventilator management represent several examples. Pulse oximetry is also frequently used to manage patients on long-term oxygen therapy (LTOT). Although pulse oximetry is a widely accepted and a frequently used tool, the reporting and reimbursement are not well understood.

#### Procedure, Hazards, and Limitations

Historically, a probe was placed on the patient’s ear; however, the second generation of oximetry devices uses a patient’s finger to assess arterial blood oxygen saturation by beaming red and infrared lights into the skin and measuring the ratio of the reemitted pulsing light intensities. Pulse oximetry provides estimates of SaO<sub>2</sub>. These electronic devices are small, relatively low cost, and easy to use.

\*From Medical Practice Management, Hilton Head Island, SC. The author has no conflicts of interest to disclose. Manuscript submitted November 17, 2008; accepted November 17, 2008.

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DOI: 10.1378/chest.07-3127

Some factors, agents, or situations may affect readings, limit precision, or limit the performance or application of a pulse oximeter. These include motion artifacts, exposure of measuring probe to ambient light during measurement, skin pigmentation, and nail polish.<sup>3</sup> This procedure should be performed by trained personnel. Pulse oximetry is considered a safe procedure, but because of device limitations, incorrect readings may lead to inappropriate treatment of the patient. Rarely tissue injury may occur at the measuring site as a result of probe misuse.

### *Place of Service*

Pulse oximetry is performed in all types of health-care settings. Outpatient sites of service typically include the emergency department, pulmonary function laboratory, clinic, physician's office, pulmonary rehabilitation programs, and the patient's home. Inpatient pulse oximetry is performed in operating rooms, ICUs, and on general hospital floors. Pulse oximetry is also used in alternative settings such as skilled nursing facilities and long-term acute care facilities.

### *Coding and Reimbursement*

The Current Procedural Terminology (CPT) identifies three codes and descriptors that may be reported for pulse oximetry 94760, 94761, and 94762. The code descriptions and the approximate Medicare reimbursement are as follows<sup>4</sup>:

94760, noninvasive ear or pulse oximetry for oxygen saturation; single determination: simple pulse oximetry study with one SaO<sub>2</sub> (SpO<sub>2</sub>) value documented. The 2009 Medicare relative value unit (RVU) is 0.08, which means that the geographically unadjusted allowable rate is approximately \$2.89.

94761, noninvasive ear or pulse oximetry for oxygen saturation; multiple determinations (*eg*, during exercise). Multiple pulse oximetry with several SaO<sub>2</sub> (SpO<sub>2</sub>) determinations reported usually taken while the patient is sitting, standing, and walking. The 2009 Medicare RVU is 0.16, which means that the geographically unadjusted allowable rate is approximately \$5.77.

94762, noninvasive ear or pulse oximetry for oxygen saturation; by continuous overnight monitoring (separate procedure). An overnight pulse oximetry study using a device that records multiple SaO<sub>2</sub> (SpO<sub>2</sub>) determinations over an extended period of time. The 2009 Medicare RVU is 0.82, which means that the geographically unadjusted allowable rate is approximately \$29.57. (The actual allowable rate may be adjusted by Medicare due to expense variations among the geographic locations of the service delivery site).

Pulse oximetry is considered a technical service involving no physician work component, and such technical services are not payable to physicians or nonphysician providers in any facility setting. Medicare designates codes 94760 and 94761 as "T" status codes, so that reimbursement for these two pulse oximetry services are always bundled with and included with the payment of a primary service.<sup>4</sup> If the patient only receives either single (94760) or multiple (94761) oximetry in the office setting and does not receive any other services by a physician or nonphysician provider on the same day, these may be reported for reimbursement. When an office visit is the primary service provided, pulse oximetry is not reported, but the level of Evaluation and Management (E/M) service reported may be impacted by the inclusion of pulse oximetry as part of the medical decision-making portion of the E/M encounter. Likewise, these codes are considered included as an element of other primary procedures such as a simple pulmonary stress test (94620) and respiratory therapy services (G0237, G0238, and G0239).<sup>5</sup> Conversely, 94762 achieves "A" status, allowing for separate reimbursement when coverage regulations are met. Under certain circumstances, 94762 may be separately payable to a physician (see "Indications, Medical Necessity, and Documentation").

The Correct Coding Initiative (CCI) applies to CPT codes 94760, 94761, and 94762. The CCI lists CPT codes that are bundled into other services and not separately reported. The CCI includes pulse oximetry in all critical care services (99289 to 99300).<sup>5</sup> CCI also bundles pulse oximetry into other nonpulmonary services such as cardiac stress testing and procedures requiring anesthesia or moderate sedation.

While Medicare considers pulse oximetry as incidental when provided with a primary service, other payers may not. Although Medicare guidelines and coding methodologies are generally accepted by many commercial insurers, it is not unusual for some commercial insurers to apply varying reimbursement methodologies, particularly as these apply to "bundling." Bundling occurs when a payer combines two or more services/procedures, allowing the physician to report only the most comprehensive service/procedure regardless of modifier usage. Some commercial payers consider the pulse oximetry codes 94760, 94761, and 94762 to be included in all E/M services, for example, outpatient office visits (99201 to 99215) or outpatient consultations (99241 to 99245) and therefore not separately payable. Some commercial payers may adapt methodologies where "unbundling" and adding a modifier may be suggested, therefore adding to the level of reimbursement.<sup>6</sup> Inasmuch as reimbursement from commercial insurers may vary dramatically and is con-

stantly changing, it is recommended that individual coverage be researched to determine each patient's benefit level.

Local Carrier Determinations (LCDs) are Medicare guidelines published by Medicare contractors delineating procedures, usage, reporting, and reimbursement requirements. LCDs are public information and readily available by state and by contractor. For example, one such LCD states:

In outpatient or home management for patients with chronic cardiopulmonary problems, pulse oximetry determinations once or twice a year are considered reasonable. In all instances, there must be a documented request by a physician/nonphysician provider in the medical record for these services. Regular or routine testing will not be allowed for reimbursement. In all circumstances, testing would be expected to be useful in the continued management of a patient, particularly in acute exacerbations or unstable conditions (eg, acute bronchitis in a patient with COPD) where increased frequency of testing would be considered for coverage purposes. Only one service per day will be allowed for testing at a reasonable frequency regardless of whether the patient is sitting, standing, or lying, with or without exercise or oxygen use, unless medical necessity can be demonstrated for additional needs. More frequent testing may be allowed when there is documentation of an acute exacerbation of a chronic pulmonary disease or other acute illnesses with signs indicating or suggesting increased hypoxemia. These CPT codes have only a technical component and, if performed in a hospital or outpatient facility, are not separately payable by Medicare Part B.<sup>7</sup>

### *Indications, Medical Necessity, and Documentation*

LCDs describe the indications for coverage for pulse oximetry and the establishment of medical necessity. A typical LCD states:

Medicare will allow payment for oximetry when accompanied by an appropriate ICD-9-CM code for a pulmonary disease(s) which is/are commonly associated with oxygen desaturation. Routine use of oximetry is noncovered.

Medically necessary reasons for pulse oximetry include:

1. Patient exhibits signs or symptoms of acute respiratory dysfunction such as:
  - Tachypnea
  - Dyspnea
  - Cyanosis
  - Respiratory distress
  - Confusion
  - Hypoxia
2. Patient has chronic lung disease, severe cardiopulmonary disease, or neuromuscular disease involving the muscles of respiration, and oximetry is needed for at least one of the following reasons:
  - Initial evaluation to determine the severity of respiratory impairment
  - Evaluation of an acute change in condition

- Evaluation of exercise tolerance in a patient with respiratory disease
  - Evaluation to establish medical necessity of oxygen therapeutic regimen
3. Patient has sustained severe multiple trauma or complains of acute severe chest pain
  4. Patient is under treatment with a medication with known pulmonary toxicity and oximetry is medically necessary to monitor for potential adverse effects of therapy.

Additionally, procedure codes 94760 and 94761 are considered medically necessary when performed for any of the following circumstances:

1. The patient has a condition for which intermittent arterial blood gas sampling is likely to miss important variations, and
2. The patient has a condition resulting in hypoxemia and there is a need to assess supplemental oxygen requirements and/or a therapeutic regimen

Continuous overnight monitoring 94762 is covered only when performed in the home and the results are reliable in that setting. The patient's record must document that the oximeter is present, self-sealed, and cannot be adjusted by the patient. In addition, the device must allow for a printout that documents an adequate number of sampling hours (a minimum of four hours should be recorded), percent of oxygen saturation and an aggregate of the results.<sup>7</sup>

As with all medical records, this information must be available if requested. The patient's medical record must support the medical necessity of pulse oximetry and must be available to Medicare on request. The medical record should clearly document the reason for pulse oximetry, the frequency and the results. Only one date of service may be reported even though the service may occur over two calendar days. The required reporting date varies among payers and should be determined based on individual payer guidelines.

### CONCLUSION

Although pulse oximetry is used in most health-care delivery settings, the reimbursement has been either combined with other procedures or reduced to minimal levels. These devices have become affordable so that today a pulse oximeter can be purchased for about the same price as a high-quality stethoscope. In spite of the minimal reimbursements or in most cases the lack of separate reimbursement, the clinical time spent for the procedure performance and documentation does not seem equitable. However, pulse oximetry may impact medical decision making (MDM) by potentially increasing the amount and complexity of data ordered or reviewed. Along with documentation of other medically necessary MDM components, history, and/or physical examination, the physician may be able to report an increased visit level and

indirectly receive additional payment for pulse oximetry, when appropriate. Therefore, it is important that clinicians have a thorough understanding of the evaluation and management guidelines and in particular the MDM element.<sup>8</sup>

#### REFERENCES

- 1 Netzer N, Eliasson AM, Netzer C, et al. Overnight pulse oximetry for sleep-disordered breathing in adults: a review. *Chest* 2001; 120:625–633
- 2 Cohen D. The 5th Vital Sign. RT for Decision Makers in Respiratory Care. October 2005
- 3 AARC Clinical Practice Guideline. <http://www.rcjournal.com/cpgs/pulsecpg.html>. Accessed December 11, 2008
- 4 Department of Health and Human Services, Centers for Medicare and Medicaid Services. <http://www.cms.hhs.gov/physicianfeesched/downloads/CMS-1385-P.pdf>. Accessed December 11, 2008
- 5 Centers for Medicare and Medicaid Services, National Correct Coding Initiative Edits. <http://www.cms.hhs.gov/NationalCorrectCodInitEd/>. Accessed December 11, 2008
- 6 Aetna. [http://www.aetna.com/provider/medical/resource\\_med/communications\\_med/coding\\_change.html](http://www.aetna.com/provider/medical/resource_med/communications_med/coding_change.html). Accessed December 11, 2008
- 7 Centers for Medicare and Medicaid Services, Medicare Coverage Database. [http://www.cms.hhs.gov/mcd/viewlcd.asp?lcd\\_id=24353&lcd\\_version=3&show=all](http://www.cms.hhs.gov/mcd/viewlcd.asp?lcd_id=24353&lcd_version=3&show=all). Accessed December 30, 2007
- 8 Pohlig C. Documenting and coding evaluation and management services. In: Manaker S, ed. *Coding for chest medicine 2008*. 12th ed. Northbrook, IL: American College of Chest Physicians, 2008